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#### REMARKS

Claims 7-13 are pending in the present application. Claims 1-6 were previously canceled, without prejudice or disclaimer. By this Amendment, claims 7 and 13 have been amended to clarify the claimed invention by using the language used in the specification or in the original claims. Accordingly, claims 7-13 are presented for reconsideration, with claims 7 and 13 being in independent form.

#### Written Description Rejection

On page 2 of the December 16, 2005 final Office Action, claims 7-13 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement.

The Examiner stated that this is a new matter rejection.

The Examiner stated that claim 7 has been amended to recite "any available structural information". The Examiner further stated that this is in contradiction to the specification at page 10 which specifically includes "proprietary structures determined by the process".

The Examiner stated that this also differs from the original claims and specification disclosure in that structural information and functional information is only included for proteins that have sequence information in the database whereas original claim 7 is directed to organizing all known structural information, sequence information, and function information. The Examiner further stated that is, the structural and/or functional information for a protein could be present whether or not the sequence information is present. The Examiner also stated that the database embraced by the instant claim does not have the same content as that contemplated by the original claims and specification disclosure.

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The Examiner stated that Step (3) as disclosed at page 10 and in original claim 7 required synthesizing "in parallel simultaneously" which is absent from claims 7 and 13. The Examiner further stated that these synthesized proteins were disclosed as needing to be from "appropriately representative species" which is absent from these claims.

The Examiner stated that crystallization as disclosed at page 10 and in an original claim 7 was to be done in parallel which is absent from claims 7 and 13. The Examiner further stated that with respect to claim 13, there is no contemplation of a method directed to maintaining a database followed by steps concerning clustering, cloning, and updating. The Examiner also stated that Steps (j)-(m) of claim 13 differ conceptually from steps (10)-(14) of the method disclosed on page 11.

The Examiner stated that a fair reading of the specification as originally filed would not convey to one of ordinary skill in the art that what is now claimed was the contemplated invention. The Examiner further stated that Applicant may not recast or repackage the method steps originally contemplated into different combinations after the fact. The Examiner also stated that the presently claimed method as written are conceptually different from those claims originally filed and the methods disclosed in the specification as filed.

The Examiner stated that the claims as presently written reword, rephrase, and select (by omission) the method steps as originally presented, and by doing so change the breadth and intent of the method as originally disclosed and claimed. The Examiner further stated that they are not supported and constitute new matter.

The Examiner stated that contrary to applicant's arguments, the disclosure is not flexible such that it can take on any various configurations. The Examiner further stated that the steps on pages 10-12 are not optional nor can limitations be included or

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excluded at will unless they are fairly contemplated by the originally filed disclosure.

By this Amendment, claims 7 and 13 have been amended to clarify the claimed invention by using the language used in the specification or in the original claims.

Accordingly, withdrawal of the written description rejection of claims 7-13 under 35 U.S.C. §112, first paragraph, is respectfully requested.

#### Enablement Rejection

On page 4 of the December 16, 2006 final Office Action, claims 7-13 were rejected under 35 U.S.C. §112, first paragraph, because the specification purportedly does not provide enablement for the breadth of what is encompassed.

The Examiner stated that the "specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims."

The Examiner stated that "the specification fails to guide one of skill in the art as to the particular steps to be performed and how they are to be performed in order to execute the method." The Examiner further stated that "claim 7 recites 'using at least one bioinformatics tool and the sequence information, structural information and functional information stored in the database'." The Examiner also stated that "this does not illuminate which bioinformatics tool, what specific information, or how to use it to achieve the goal of clustering." The Examiner stated that "it does not provide the positive, active steps to perform on unspecified structural or sequence information to arrive at a plurality of families within the context of the claims." The Examiner further stated that "the database has sequence information for a first plurality of proteins and structural

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information and functional information for a second plurality of proteins."

The Examiner stated that for an example the structural information for the second plurality is polymeric structure (monomer, dimer, etc.), and another example that the functional information for the second plurality is enzymatic activity (protease, synthase, etc.). The Examiner queried "how does one practicing the invention use polymeric structure and enzymatic activity to cluster into a plurality of families?"

The Examiner proposed the example that proteins A, B and C are in the first plurality and proteins D, E and F are in the second plurality, that protein D is a monomeric protease, that protein E is a trimeric synthase and that protein F is a monomeric protease. The Examiner queried "what is the plurality of families that the at least one bioinformatics tool identifies?" The Examiner also queried "how are homologous sequences for the family determined if the database does not contain sequence information for D, E and F and their sequences cannot be compared to sequence information for A, B and C?" The Examiner stated that the specification provides no discussion or guidance for adapting bioinformatics tools to make such determinations.

The Examiner stated that in step (g), the refined model is stored in the database. The Examiner also stated that part (a) does not require that the structural information include a refined model or a homology model. The Examiner stated that in step (j), the database is updated to link the refined model to other databases. The Examiner further stated that part (a) does not require that the database have links to any information at all. The Examiner stated that "the method steps as written are internally inconsistent." The Examiner further stated that "as written, one of ordinary skill in the art would be unable to practice the method for at least these reasons."

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The Examiner further stated that claim 13 is similarly not enabled as it parallels claim 7. The Examiner also stated that there is not guidance for how steps (k)-(m) are to be performed by one of ordinary skill in the art.

The Examiner stated that the claims are interpreted in view of the specification without importing limitations from the specification into the claims. The Examiner further stated that the specification must enable the full breadth of what is claimed not merely some aspects of the claims.

By this Amendment, claims 7 and 13 have been amended to clarify the claimed invention by using the language used in the specification or in the original claims.

Accordingly, withdrawal of the rejection of claims 7-13 under 35 U.S.C. §112, first paragraph, is requested.

**Rejection under 35 U.S.C. §112, second paragraph**

On page 6 of the December 16, 2005 Office Action, claims 7-13 were rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite.

The Examiner stated that these rejections are maintained for reasons of record and newly applied to claim 13 for the same reasons as this claim recited the same "homologous sequences" and families". The Examiner further stated that the claims are unclear as to what level of homology defines a family and applicant's claims are not limited to the "30% identity, <0.001 probability of error" recited in the arguments. The Examiner also stated that the specification provides no limiting definition and there does not appear to be an art understood definition. The Examiner stated that the specification and claims fail to make clear what level of homology constitutes a family for the purposes of their invention.

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By this Amendment, claims 7 and 13 have been amended to clarify the claimed invention.

Accordingly, withdrawal of the rejection of claims 1-13 under 35 U.S.C. §112, second paragraph, is requested.


In view of the remarks hereinabove, Applicant submits that claims 7-13 are now in condition for allowance, and earnestly solicits the allowance of claims 7-13.

If a telephone interview would be of assistance in advancing prosecution of the present application, Applicant's undersigned attorney invites the Examiner to telephone him at the telephone number provided below.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125.

No fee is deemed necessary in connection with the filing of this response. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,

  
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